

ex: Conjugates $a + b$ and $a - b$

$$\frac{8}{4 - \sqrt{5}} \quad \frac{4 + \sqrt{5}}{4 + \sqrt{5}}$$

$$\frac{32 + 8\sqrt{5}}{16 - 5} = \frac{32 + 8\sqrt{5}}{11}$$

ex:

$$\frac{(3 + \sqrt{7})(5 + 2\sqrt{7})}{(5 - 2\sqrt{7})(5 + 2\sqrt{7})}$$

$$\begin{array}{r} 2\sqrt{7} \\ + 2\sqrt{7} \\ \hline 4 \cdot 7 \\ 28 \end{array}$$

$$\frac{15 + 6\sqrt{7} + 5\sqrt{7} + 14}{25 - 28}$$

$$\frac{29 + 11\sqrt{7}}{-3}$$

ex:

$$\frac{\sqrt{6}}{5 + \sqrt{3}} \quad \frac{(5 - \sqrt{3})}{5 - \sqrt{3}}$$

$$\frac{5\sqrt{6} - \sqrt{18}}{25 - 3} = \frac{5\sqrt{6} - 3\sqrt{2}}{22}$$

"Fun" with Factoring 😊

ex:

$$x^2 - 18$$

$$(x)^2 - (3\sqrt{2})^2$$

$$(x + 3\sqrt{2})(x - 3\sqrt{2})$$

ex:

$$x^2 - 12$$

$$(x)^2 - (2\sqrt{3})^2$$

$$(x + 2\sqrt{3})(x - 2\sqrt{3})$$

ex:

$$x^3 - 5$$

$$(x)^3 - (\sqrt[3]{5})^3$$

$$(x - \sqrt[3]{5})(x^2 + x\sqrt[3]{5} + \sqrt[3]{25})$$

p 254

35 - 45
odd